




MEMORANDUM

Missouri Department of Transportation Design General Headquarters

TO: All General Headquarters and District Offices

FROM: Diane Heckemeyer
State Design Engineer 

DATE: November 1, 2004

SUBJECT: Design
Development Manual Letter No. 7, 2004
Project Development Manual Revisions

Questions concerning the Project Development Manual revisions should be directed to General Headquarters, Design Standards Section, Dan Tschirgi (573) 526-2924 or Joe Jones (573) 751-3813.

NOTE	EXPLANATION
1	The following revisions are effective November 1, 2004.
2	In all sections that are being revised, references to functional units in General Headquarters (GHQ) are being changed to "Division" or "Central Office".

ITEM	DESCRIPTION OF REVISION
Volume I Table of Contents	Revision dates changed for appropriate sections.
Figure 2-03.1	The address of the U.S. Fish and Wildlife Service office for notification of hearings has been updated.
Figure 2-03.5	Errata change: The order of listing the "Department View" and Other Views" were reversed to be consistent with the Word design form.
Section 4-03	Errata Change: Renumber Subsection 4-03.4(3). Subsection 4-03.5(5) has been revised to clarify that the chord definition of curvature is only used when an existing chord defined curve is utilized in the alignment. Errata Change: In Subsection 4-03.13(1)(b) under Project Schedule Complexity, changed "intersection" to "interchange".
Figure 4-04.1	Footnote number 19 was added pertaining to the roadbed width for Collector and Local Roadways with less than 1700 ADT. This corresponds to the third bullet point in Subsection 4-09.25(2)(a). When it is necessary to accommodate pedestrian access in rural areas, a minimum shoulder width of 6 feet should be provided.

ITEM	DESCRIPTION OF REVISION
Figure 4-07.2	In Development Manual Letter No. 5, 2004, this figure was revised to show the longitudinal joints on either side of a painted flush or raised curb median on a minor arterial street. On one side, a Type E Joint was shown. This has been revised to a Type M Joint.
Figure 4-07.3	<p>In Development Manual Letter No. 5, 2004, this figure was revised to show the longitudinal joints on either side of a barrier median on a principal arterial street. On one side, a Type E Joint was shown. This has been revised to a Type M Joint.</p> <p>The typical section has been revised to show a sidewalk placement outside the Type U1 Shoulder. The note “No sidewalks are to be constructed, except at cross streets” has been removed. The sidewalk typical section coincides with the revision to Subsection 4-09.3 regarding the use of barrier curb for protection for pedestrians.</p>
Figure 4-07.4	In Development Manual Letter No. 5, 2004, this figure was revised to show the longitudinal joints on one side of a 6-lane freeway. A Type E Joint was shown on one side or the other, but not on both sides. This has been revised to a Type M Joint.
Section 4-09	<p>Revisions to Subsection 4-09.4(2)(c) clarify that Type II ditch checks may be constructed to a greater height than the typical 18 inch effective height shown on Standard Plan 806.10. The revision states that the estimated number of ditch checks needed should be based on 18 inch high ditch checks. Using an 18 inch effective height to estimate the number of ditch checks helps to ensure that there will be an adequate number of ditch checks bid for the project, since 24 inch ditch checks would be placed at a greater spacing. Also, a statement was added in the second paragraph so that Type II ditch checks will be included on drainage ditches leaving the right of way.</p> <p>In Subsection 4-09.7(2) the last bullet point was added. A priority listing of guardrail and other roadside safety elements is provided to be used on 3R/4R and safety improvement projects.</p> <p>Subsection 4-09.25(2) was clarified to state that any of the alternatives for non-motorized travelers are separated from the travelway or on shoulders.</p> <p>In Subsection 4-09.25(2)(a), the first bullet point listing sidewalk width exceptions was revised to give a minimum sidewalk width of 4 feet instead of 3 feet. The last bullet point was added to provide a clear space around the sidewalk.</p> <p>Subsection 4-09.25(2)(c), the list of examples that may warrant a mid-block pedestrian crossing was expanded.</p> <p>In Subsection 4-09.25(2)(h), a reference to the AASHTO publication “Guide Specifications for Design of Pedestrian Bridges” was added.</p>

November 1, 2004

ITEM	DESCRIPTION OF REVISION
Figure 4-09.11	Revisions to the minimum design criteria for two way bicycle paths were made to be consistent with AASHTO criteria. The foreslope was changed from 3:1 to 6:1 and the minimum ditch depth was changed from 2 feet to 0.33 feet.
Volume II Table of Contents	Revision dates changed for appropriate sections.
Figure 5-04.8	Errata change: A dimension in the cut section has been corrected.
Figure 8-04.18	On Sheet 3 of 3, the sign designations were corrected from “WF” to “WO”.
Chapter IX Table of Contents	Revisions made to the table of contents corresponding with section and figure revisions.
Section 9-10	<p>Subsection 9-10.2(8) Temporary Installations is being added to provide guidance on temporary pipe installations that is consistent with the new pipe policy that was implemented 7/1/04. In all cases, the length of service for temporary pipe will be less than the approximate 35 year anticipated life of group C pipe, so Group C pipe should be used regardless of ADT. The fill height restrictions are addressed in the standard plans.</p> <p>Subsection 9-10.19 Slotted Drains is being added to provide guidance and to respond to a change by the manufacturers of slotted drains. Standard Plan 604.70 shows three types of slotted drains, one of which is not currently produced. Revisions are also being made to Standard Specification Section 604.60. These recommended revisions allow the contractor to select the type of slotted drain to install. The diameter of pipe and length of slotted drain will need to be specified in the plans.</p>
Microstation Design Form D-34	<p>The following revisions were made:</p> <ul style="list-style-type: none"> • In One Tube – Type C view, “C Length” dimension was shown to base plate and relabeled as “Arm Length” as shown in two tube structure. • In Two Tube – Type C view, dimension “B” was extended to C/L of post. • In Two Tube – Type B, changed “Sign B” dimension to “Post Length”. • In table, changed column heading “Span C or Arm “ to “Span or Arm”. • Note #4 was revised to pertain to total sign area instead of maximum sign area.
Microstation Design Form D-37A	Errata change: The bid item numbers for signal signs in the “Signs” column were incorrect and have been made consistent with the bid item list.
Bid Items	The bid item listing issued 11/1/04 has been attached.